

## REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Official Action dated May 9, 2003. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, in connection with the Request for Continued Examination filed herewith, to indicate the allowability of the claims, and to pass this case to issue.

### Status of the Claims

Claims 1-6 and 25-32 are under consideration in this application. Claims 7-24 are being cancelled without prejudice or disclaimer. Claims 1-6 are being amended, as set forth in the above marked-up presentation of the claim amendments, in order to more particularly define and distinctly claim applicants' invention. New claims 25-32 are being added to recite other embodiments of the invention described in the specification.

### Additional Amendments

The specification and the claims are being amended to correct formal errors and/or to better recite or describe the features of the present invention as claimed. All the amendments to the claims are supported by the specification. Applicants hereby submit that no new matter is being introduced into the application through the submission of this response.

### Formality Rejections

The specification was requested to be substituted, and claims 1-24 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. As indicated, the specification and the claims have been amended as required by the Examiner. Accordingly, the withdrawal of the outstanding informality rejection is in order, and is therefore respectfully solicited.

### Prior Art Rejection

Claims 1-24 were rejected either under 35 U.S.C. 102(e) as being anticipated by U.S. Pat.

No. 6,286,756 to Stinson et al (hereinafter “Stinson”), or under 35 U.S.C. 103(a) as being unpatentable over Stinson. These rejections have been carefully considered, but are most respectfully traversed, as more fully discussed below.

The customer information control system of the invention, as now recited in claim 1, comprises: one or a plurality of image pick-up elements **installed in a store or a facility of the hospitality industry** (page 1, 2<sup>nd</sup> paragraph) for unnoticeably (page 4, last line; Fig. 3) taking at least one of facial, partial body and whole body images of customers every time the customers come to the store or the facility (page 5, 2<sup>nd</sup> paragraph), and a subsystem for encoding said image and transmitting the encoded image to a server via a wired and/or wireless network line; at least one input terminal for inputting *customer personal information of the customers* (any information that can specify the customer in comparison with other customers, such as favorite foods, hobbies and special skills, in addition to personal information (ID) such as name, address, telephone number, domain, age, sex and family make-up; page 4, 5th paragraph); and a subsystem for encoding the input customer personal information and transmitting the encoded information to the server via a wired and/or wireless network line. The image is compared against existing images by the server (1) to identify whether the customers visited the store or the facility before (page 6, 4<sup>th</sup>-5th paragraphs) or (2) to verify identities of the customers (page 7, 2<sup>nd</sup> paragraph) so as to input or retrieve customer personal information of the customers (page 7, 3<sup>rd</sup> paragraph) thereby allowing discussion on preferences of the customers in person during reception (page 2, second paragraph).

The invention unnoticeably takes images with a hidden camera 4 at an entrance D (Fig. 3), or a camera 4 embedded in a signing board 9 or a register 7 (Fig. 3) for collection clients' images without their notice. The invention collects customer personal information and retrieves the customer personal information each time the customers visit the store of the facility so as to allow discussion of the preferences of the customers during reception.

Applicant respectfully submits that Stinson fails to teach or suggest “image pick-up elements installed in a store or a facility of the hospitality industry for unnoticeably taking at least one of facial, partial body or whole body images of customers every time the customers come to the store or the facility thereby comparing the image against existing images by a server (1) to identify whether the customers visited the store or the facility before or (2) to verify identities of the customers so as to input or retrieve customer personal information of the customers thereby allowing discussion of preferences of the customers in person during reception” according to the

invention.

In contrast, Stinson only teaches an ATM machine with the capability of verifying biometric information of an user (Abstract; Fig. 1). The ATM with an embedded camera can be installed in a store or a facility of the hospitality industry for unnoticeably taking images of faces or bodies of only the users of the ATM machine (but not all customers visiting the store or the facility). At most, the ATM compares the image against existing images to verify identities of the customers, but the ATM does not concern or identify whether the customers visited the store or the facility before. The ATM merely retrieves customer personal information of the customers for mechanically verifying the identification automatically such that it does not conduct any in person reception or discussion with the users about their preferences during reception

As to the security cameras in a casino, they target at each table, e.g., black jack, to monitoring “suspicious activities” occurring on/around each table, rather than taking images of faces and/or bodies of customers every time the customers come to the casino. In addition, only images of “suspicious activities” (rather than all images) will be compared against existing images. The retrieved images and customer personal information are for investigating the “suspicious activities,” rather than allowing discussion on preferences of the customers in person during reception.

The Examiner’s reliance upon the “common knowledge and common sense” of one skilled in the art for the allegedly “inherent” or “old and well known” teachings and any motivation for combining the wireless communication, internet use, voice recognition, with Stinson did not fulfill the agency’s obligation to cite references to support its conclusions. Instead, the Examiner must provide the specific teaching of allegations of “inherent” or “old and well known” teachings or combination on the record written in the prior art references to allow accountability.

*To establish a prima facie case of obviousness, the Board must, inter alia, show “some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references.” In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). “The motivation, suggestion or teaching may come explicitly from statements in the prior art, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved.” Kotzab, 217 F.3d at 1370, 55 USPQ2d at 1317. .... Recently, in In re Lee, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002), we held that the Board’s reliance on “common knowledge and common sense” did not fulfill the agency’s obligation to cite references to support its conclusions. Id. at 1344, 61 USPQ2d at 1434. Instead, the Board must document its reasoning on the record to allow accountability. Id. at 1345, 61 USPQ2d at*

1435. See In re Thrift, 298 F.3d 1357.

Such an obligation to provide specific teaching(s) also applies to other existing or future obviousness rejections.

Even if, *arguendo*, a person of ordinary skill were motivated to combine the teachings as suggested by the Examiner, such combined teachings would still fall short in fully meeting the Applicants' claimed invention as set forth in claim 1 since, as discussed, there is no teaching of "image pick-up elements installed in a store or a facility of the hospitality industry for unnoticeably taking at least one of facial, partial body or whole body images of customers every time the customers come to the store or the facility thereby comparing the image against existing images by a server (1) to identify whether the customers visited the store or the facility before or (2) to verify identities of the customers so as to input or retrieve customer personal information of the customers thereby allowing discussion of preferences of the customers in person during reception".

Applicants contend that Stinson and its combination with prior art fail to teach or disclose each and every feature of the present invention as disclosed in independent claim 1. As such, the present invention as now claimed is distinguishable and thereby allowable over the rejections raised in the Office Action. The withdrawal of the outstanding prior art rejections is in order, and is respectfully solicited.

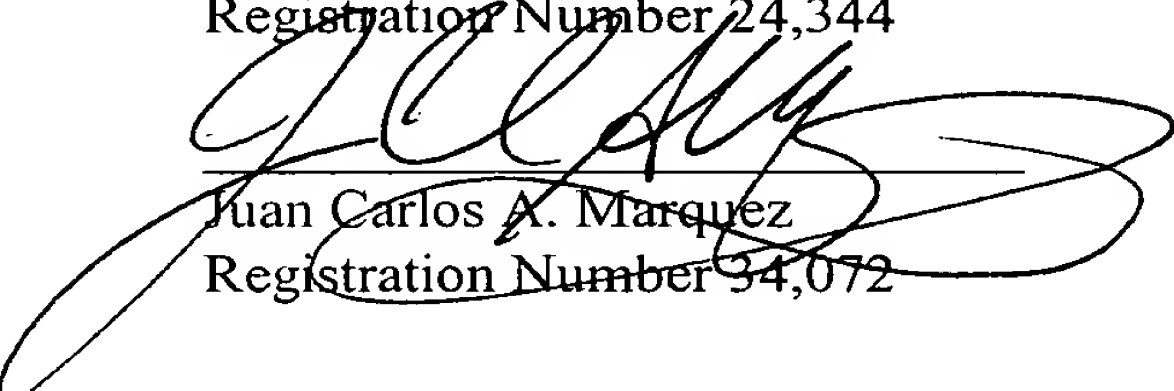
In view of all the above, clear and distinct differences as discussed exist between the present invention as now claimed and the prior art reference upon which the rejections in the Office Action rely, Applicant respectfully contends that the prior art references cannot anticipate the present invention or render the present invention obvious. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of

the above-captioned application, the Examiner is invited to contact the Applicant's undersigned representative at the address and phone number indicated below.

Respectfully submitted,

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SPF/JCM/JT



## CUSTOMER INFORMATION CONTROL SYSTEM

OK  
exes  
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### BACKGROUND OF THE INVENTION

#### Field of the Invention

5 The present invention relates to a system for controlling customer information.

#### Related art

Particularly in ~~tertiary~~hospitality industries such as eating and drinking business, retail stores or the like, how to take great care of customers, and in the eating and drinking business, how to make customers revisit their stores, or in retail stores,  
10 how to make customers purchase products again in their stores, that is, ~~necessity of a~~ creating more so-called repeaters is the most important problem.

Heretofore, in order to ~~increase~~obtain repeaters, a customer ledger is prepared ~~by on~~ paper cards or on a personal computer, and information on the customer ledger is read ~~out~~ accordingly ~~to need~~ to deal with customers.

15 Moreover, for example, with regard to offer of delicate service to repeaters, such as invitation on the birthday of the customer, the customer becomes familiar with the owner or manager of the store ~~by~~ via personal invitation; and thus service is customized for ~~provided depending on~~ each customer. ~~Therefore~~ However, if the owner or the manager of the store is retired, these services ~~are not~~ can no longer be performed  
20 at all.

~~However, with~~ With high economic growth, ~~tertiary~~hospitality industries such as eating and drinking business, retail stores or the like is flourishing recently. On the other hand, excessive competition becomes severe ~~between in~~ in ~~tertiary~~hospitality industries, and soft reception of customers ~~contributes to bring~~ brings customers to  
25 ~~come back~~ to the store again, although enhancement in view of taste or quality of goods is also important ~~in order to~~ increase or secure a so-called repeaters.

## SUMMARY OF THE INVENTION

It is, therefore, an object of the present invention to ~~enable providing~~ provide information necessary for enhancing the soft mood at the time of reception, such as the  
5 name and birthday of the customer, to a shop assistant who receives a customer, even if the shop assistant ~~has not got~~ is not acquainted with the customer, ~~such as the name and birthday of the customer~~, if the customer has once come to the shop.

It is another object of the present invention to ~~enable providing~~ provide information for enhancing the soft mood at the time of reception of a customer, to a  
10 waiter, for example, in a restaurant, such that though the waiter has not received the customer ~~when the customer came to the shop before~~, the waiter can discuss or talk about the preference of the customer, after having got the information such as orders that the customer made ~~at that time~~ before.

The other object of the present invention is, in officially public facilities (such  
15 as police stations, hospitals, city halls, stations or schools), or in finance business (such as banks, post offices, card companies or the like), or in private facilities (such as convenience stores, hotels or the like), to ~~enable providing~~ provide information for enhancing the soft mood at the time of reception to the person who receives the customer.

20 In general, the feature of the present invention is that comfortable service can be provided to ~~repeater~~ repeating customers by storing image information of a plurality of customers and retrieve personal ~~identical and peculiar~~ information of the ~~concerned~~ customers in respective servers, or linking these information to each other and storing these information, to thereby control the customer personal information, and at any time  
25 as required, outputting the image or/and peculiar customer information ~~of a specific customer~~ on a display of a mobile image communication terminal, such as a high function and high performance mobile phone, or on a display of a fixed terminal, such



as a personal computer for confirmation.

As the above-described customer information, <voice> of the customer may be included, and it is one feature of the present invention to verify and recognize the customer information by means of <voice>. This includes information obtained by asking the customer about address, name, birthday or the like in a so-called questionnaire format.

The other objects, excellent features on the construction, excellent working effects of the present invention will become obvious in the description of embodiments described below.

Moreover, in the embodiments of the present invention, although description will be ~~made-given~~ by means of images of a face, or a part of the body, or the whole image of the customer, ~~but~~ the present invention includes all means that can identify be ~~specified by~~ the customer, by collecting or specifying of these information, or taking photographs of the frame, shape of the ear, outline or size of the face, and positional relationship between the face, eyes and the nose, using invisible rays such as X-rays.

In general, according to the present invention, better service can be provided to repeating repeater-(regular) customers, by linking a predetermined image information with the customer personal information to control the customer information, and outputting the images and the customer personal information on a display of a mobile image communication terminal, such as a high function and high performance mobile phone, or on a display or a printer of a personal computer.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

Figure 1 is a block diagram of the present invention;

Figure 2 is an illustrative explanation diagram of Figure 1;

Figure 3 is an overall schematic diagram for explaining the operation;



Figure 4 is a schematic diagram showing one example of an image and characters ~~display~~ displayed on a display such as a handy terminal;

Figure 5 is a block diagram at the time of input, for explaining the operation in another embodiment;

5 Figure 6 is a block diagram at the time of input similar to Figure 5;

Figure 7 is a block diagram at the time of input, for explaining the operation in another embodiment; and

Figure 8 is a block diagram at the time of output thereof.

## 10 DESCRIPTION OF THE PREFERRED EMBODIMENTS

~~At the time of implementing the present invention, in~~ in the drawings, reference symbol 1 denotes a questionnaire form for collecting information of a plurality of customers. This is, for example, handed over to a customer to fill in by the owner or manager of a restaurant. As to the information obtained from the customer ~~at that time~~,  
15 value added information is preferable, such as favorite foods, hobbies and special skills, in addition to personal information (ID) such as name, address, telephone number, domain, age, sex and family make-up. The customer personal information may be any information that can specify the customer in comparison with other customers.

This questionnaire result is input to ~~a~~the personal computer and turned into  
20 electronic data. ~~Therefore, not~~ Not only using such a questionnaire form, ~~but an~~ interview ~~method may be used~~ conducted to gather, wherein the information is verbally ~~gathered from the customer and the customer personal~~ information is collected by voice input 2.

~~These~~ The information is turned into electronic data as described above and  
25 stored in a data server 3 via a wired or wireless network line 11, as shown ~~seen~~ in Figure 2.

Moreover, in the figure, reference symbol 4 denotes one or a plurality of image

pick-up elements, such as a camera, installed in a predetermined place in the store. In the case of restaurants or supermarkets, as ~~seen~~ shown in Figure 3, this video element 4 is ~~normally~~ usually installed at the side of a display showing the total amount, such as a register 7, or the like, so as to be unnoticed.

5 This is because customers always turn their faces toward the display 8 to ~~sceshowing~~ the total charge amount, and hence their pictures are reliably taken, and customers do not have uncomfortable feeling because their pictures are taken.

In another embodiment, ~~Taking this arrangement into consideration, there is~~ ~~usually~~ a nameplate stand 9 in a "store" as shown in the figure has, ~~and there is an~~   
10 ~~advantage in that~~ a video element 4, such as a camera, is installed at ~~such~~ an unnoticed position. If, ~~and if~~ customers are asked to write their names every time they come to the store, ~~then~~, information such as name can be input together with the picture of the customer without notifying ~~asking~~ them.

The content of the ~~picture to be taken~~ images is not limited to the "face" 10 of   
15 the customer, ~~but~~ and any physican features may be taken ~~shooting means may be used~~, as long as it can specify the customer, by a part of the body or the whole body, or outline of the face, shape of the ear, or positional relationship between the face, eyes and the nose, using invisible rays.

This image data is stored in an image server 12 via the transmission by a wired   
20 or wireless network line 11. In this case, it is naturally necessary to consider encoding, such as adding a file name to the data information and the image information, respectively, corresponding to each other.

The information in these both servers 3, 12 is output to a fixed terminal 14, such as a personal computer, or a mobile terminal 15, such as a mobile phone, or a   
25 printer 18, as completed necessary information, so that the information can be provided for the customer service as needed, ~~according to need~~.

Moreover, ~~it is a matter of course that~~ the mobile terminal 15, such as a mobile

phone referred herein, includes a handy terminal for ~~an a so-called~~ order entry, ~~used in~~  
eating ~~places, houses~~ such as restaurants.

Referring to Figure 3, ~~for example,~~ in the entrance D of this store, a video  
element 13, such as a camera (which ~~can shoot~~ shoots or takes a photograph of the face,  
5 a part of the body or the whole body, or the outline of the face or the frame of a  
customer C ~~who has come to~~ entering the store, is installed at a predetermined position  
at the entrance D of this store.

Furthermore, the image information obtained by the video element 13, such as  
a camera, is connected to the image server 12 via ~~a the~~ wired or wireless network line  
10 11.

One example of the operation in the present invention will be described with  
reference to Figure 5 to Figure 8. Here, it is assumed that a visitor (customer) comes to  
a shop. The picture of the visitor (customer) is taken, and transmitted to the image  
server 12 for performing Authentication operation.

15 That is to say, this Authentication is for confirming whether the concerned  
~~same image has been monitored~~ taken and stored in the image server 12. ~~If or not, and~~  
~~as a result, if~~ the customer has not ~~been monitored~~ had images taken, it means that the  
customer is a first time visitor. Therefore, this image data is stored in the image server  
12.

20 As a result of this Authentication, if there is an image that agrees with one of  
~~the image existing images~~ of the customer in the image server 12, ~~an message~~ informing  
message ~~this is~~ transmitted to a person who is receiving the customer (waiter) E.

As such ~~means,~~ since the reception person E ~~is~~ normally carries a handy  
terminal 15 for receiving the order of the customer, the above message is delivered to  
25 the reception person with ~~a~~ an arrival signal, such as lighting up the terminal 15.

In this manner, the reception person knows that the customer he is now waiting  
on is a customer who has come to the shop ~~before two or several times,~~ and hence he

~~invokes~~retrieves the image of the customer that has been input last time from the image server 12, if necessary, via the wired or wireless network line 11, to be displayed on the handy terminal 15, and searches various information from the data server 3, using the file number as a key word, to display the data on the terminal 15, as shown in ~~like a~~  
5 Figure 4.

Here, the reception person confirms that the customer he is now waiting on is the same as~~with~~ the image displayed on the terminal 15, and at the same time, for example, seeing the menu the customer had ordered several times in the past from the data server 3, to obtain detailed customer personal information, such as "the preference  
10 of the customer for meat dish is sirloin", "the preference of the customer for the cooked state of beef is medium", "the customer orders coffee after the meal", or "the customer likes a seat by the window". If the waiter waits on the customer based such information, the customer is surprised by~~at~~ this service, and will never forget this restaurant.

15 Moreover, as shown in Figure 7, if a file 16, also referred to as "customer chart" in which the character information in the data server 3 is docked with the image information corresponding thereto ~~is~~ (prepared in advance), when a customer ~~who had come to this shop once~~ comes back to this restaurant again, a picture of the face or whole image or the frame of the customer D is taken by the video element 13, such as a  
20 camera installed in the shop, and the image information can be immediately verified with the file 16, also referred to as "customer chart" described above, via the wired or/and wireless network line 11, thereby identification operation of the customer information can be performed promptly.

The customer personal information ~~computed~~processed in this manner is  
25 retrieved and output to the fixed output terminal 14, such as a personal computer or a mobile output terminal, such as the handy terminal 15, ~~according to need~~as needed, in the same manner as in the above embodiment. Then, the information can be flexibly

used for the customer service, such as by providing a seat by the window to the customer who likes a seat by the window, or by asking the customer, "Last time you preferred medium, but how do you like it this time?", at the time of confirming the cooked state of the beef, or by providing a present, such as a bouquet, or providing a discount service, if it is the birthday of the customer.

As another embodiment, ~~it is assumed that if~~ the customer, who has enjoyed the meal and is going to leave, wants to use a credit card for the payment. ~~In that case,~~ a picture of the face or the whole image, or the frame of the customer is taken by one or a plurality of image pick-up elements 4, such as cameras installed in the vicinity of the register display 8 ~~of total amount~~, and the image information is transmitted to the file 16, also referred to as "customer chart", via the wired or/and wireless network line 11 for authentication.

In the file 16, also referred to as "customer chart", ~~which has received upon receiving an~~ authentication request, the data collected in advance in the data server 3 is taken out from the customer list in the past, based on the image information, and information such as whether or not the credit card ~~which is~~ now being used by the customer is ~~one in the~~ a robbery report, whether it is forged ~~or not~~, or even if the credit card is of the right person, whether or not the customer is ~~in the search for~~ an identified criminal or ~~search for~~ a missing person can be ~~obtained~~ confirmed in a moment.

As described above, data information obtained by means of questionnaire or the like, or image information, can be available~~provided~~ onerously or free of charge to public organizations or companies 17 that require the information. It is also possible to cooperate with various ~~officially~~ public facilities or private ~~public~~ facilities. for, ~~for~~ example, ~~in such a manner that~~ the police presents images of criminals beforehand to restaurants or the like for "criminal arrest", and if the same image as those is detected, it is informed to the police.

### ABSTRACT OF THE DISCLOSURE

Better service is provided to ~~repeater~~ repeating (regular) customers by linking predetermined image information with the customer personal information to thereby ~~control the customer information, and outputting~~ output the information on a display

5 of a mobile image communication terminal such as high function and high performance mobile phone or/and a display or a printer of a personal computer. ~~—A customer information control system comprising: one or a plurality of cameras for taking photographs of a face or/and the whole image or/and the frame of customers, a system for encoding the image information of these cameras and transmitting the encoded~~

10 ~~information to an image server via a wired or/and wireless network line; a system for transmitting the image information of the face or the whole image of the customers to customer lists (charts) via the wired or/and wireless network line; customer information collection means for collecting customer information through questionnaires for being input or voice input; a system for encoding the customer~~

15 ~~information and transmitting the encoded information to a data server via the wired or/and wireless network line; a system for transmitting the customer information to the customer list (chart) via the wired or/and wireless network line; and a customer list (chart) in which the image information and the customer information transmitted from the data server and the image server via the wired or/and wireless network line can be~~

20 ~~related to each other and automatically listed as the identical information.~~